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Safety precautions

Carefully follow the precautions listed below because they are essential to guarantee the safety of the equipment.



WARNING

- Always disconnect the air conditioner from the power supply before servicing it or accessing its internal components.
- Verify that installation and testing operations are performed by qualified personnel.
- Verify that the air conditioner is not installed in an easily accessible area.

General information

- ▶ Carefully read the content of this manual before installing the air conditioner and store the manual in a safe place in order to be able to use it as reference after installation.
- ▶ For maximum safety, installers should always carefully read the following warnings.
- ▶ Store the operation and installation manual in a safe location and remember to hand it over to the new owner if the air conditioner is sold or transferred.
- ▶ This manual explains how to install an indoor unit with a split system with two SAMSUNG units. The use of other types of units with different control systems may damage the units and invalidate the warranty. The manufacturer shall not be responsible for damages arising from the use of non compliant units.
- ▶ The air conditioner is compliant with the requirements of the Low Voltage Directive (72/23/EEC), the EMC Directive (89/336/EEC) and the Directive on pressurized equipment (97/23/EEC).
- ▶ The manufacturer shall not be responsible for damage originating from unauthorized changes or the improper connection of electric and requirements set forth in the "Operating limits" table, included in the manual, shall immediately invalidate the warranty.
- ▶ The air conditioner should be used only for the applications for which it has been designed: the indoor unit is not suitable to be installed in areas used for laundry.
- ▶ Do not use the units if damaged. If problems occur, switch the unit off and disconnect it from the power supply.
- ▶ In order to prevent electric shocks, fires or injuries, always stop the unit, disable the protection switch and contact SAMSUNG's technical support if the unit produces smoke, if the power cable is hot or damaged or if the unit is very noisy.
- ▶ Always remember to inspect the unit, electric connections, refrigerant tubes and protections regularly. These operations should be performed by qualified personnel only.
- ▶ The unit contains moving parts, which should always be kept out of the reach of children.
- ▶ Do not attempt to repair, move, alter or reinstall the unit. If performed by unauthorized personnel, these operations may cause electric shocks or fires.
- ▶ Do not place containers with liquids or other objects on the unit.
- ▶ All the materials used for the manufacture and packaging of the air conditioner are recyclable.
- ▶ The packing material and exhaust batteries of the remote controller(optional) must be disposed of in accordance with current laws.
- ▶ The air conditioner contains a refrigerant that has to be disposed of as special waste. At the end of its life cycle, the air conditioner must be disposed of in authorized centers or returned to the retailer so that it can be disposed of correctly and safely.

Installing the unit

IMPORTANT: When installing the unit, always remember to connect first the refrigerant tubes, then the electrical lines.

Always disassemble the electric lines before the refrigerant tubes.

- ▶ Upon receipt, inspect the product to verify that it has not been damaged during transport. If the product appears damaged, DO NOT INSTALL it and immediately report the damage to the carrier or retailer (if the installer or the authorized technician has collected the material from the retailer.)
- ▶ After completing the installation, always carry out a functional test and provide the instructions on how to operate the air conditioner to the user.
- ▶ Do not use the air conditioner in environments with hazardous substances or close to equipment that release free flames to avoid the occurrence of fires, explosions or injuries.

- Our units should be installed in compliance with the spaces shown in the installation manual, to ensure accessibility from both sides and allow repairs or maintenance operations to be carried out. The unit's components should be accessible and easy to disassemble without endangering people and objects.
- For this reason, when provisions of the installation manual are not complied with, the cost required to access and repair the units (in SAFETY CONDITIONS, as set out in prevailing regulations) with harnesses, ladders, scaffolding or any other elevation system will NOT be considered part of the warranty and will be charged to the end customer.

Power supply line, fuse or circuit breaker

- Always make sure that the power supply is compliant with current safety standards. Always install the air conditioner in compliance with current local safety standards.
- Always verify that a suitable grounding connection is available.
- Verify that the voltage and frequency of the power supply comply with the specifications and that the installed power is sufficient to ensure the operation of any other domestic appliance connected to the same electric lines.
- Always verify that the cut-off and protection switches are suitably dimensioned.
- Verify that the air conditioner is connected to the power supply in accordance with the instructions provided in the wiring diagram included in the manual.
- Always verify that electric connections (cable entry, section of leads, protections...) are compliant with the electric specifications and with the instructions provided in the wiring scheme. Always verify that all connections comply with the standards applicable to the installation of air conditioners.
- Devices disconnected from the power supply should be completely disconnected in the condition of overvoltage category.



CAUTION

- ◆ Make sure that you earth the cables.
 - Do not connect the earth wire to the gas pipe, water pipe, lighting rod or telephone wire. If earthing is not complete, electric shock or fire may occur.
- ◆ Install the circuit breaker.
 - If the circuit breaker is not installed, electric shock or fire may occur.
- ◆ Make sure that the condensed water dripping from the drain hose runs out properly and safely.
- ◆ Install the power cable and communication cable of the indoor and outdoor unit at least 1m away from the electric appliance.
- ◆ Install the indoor unit away from lighting apparatus using the ballast.
 - If you use the wireless remote control, reception error may occur due to the ballast of the lighting apparatus.
- ◆ Do not install the air conditioner in following places.
 - Place where there is mineral oil or arsenic acid. Resin parts flame and the accessories may drop or water may leak. The capacity of the heat exchanger may reduce or the air conditioner may be out of order.
 - The place where corrosive gas such as sulfurous acid gas generates from the vent pipe or air outlet.
 - The copper pipe or connection pipe may corrode and refrigerant may leak.
 - The place where there is a machine that generates electromagnetic waves. The air conditioner may not operate normally due to control system.
 - The place where there is a danger of existing combustible gas, carbon fiber or flammable dust.
 - The place where thinner or gasoline is handled. Gas may leak and it may cause fire.

Preparation for installation

When deciding on the location of the air conditioner with the owner, the following restrictions must be taken into account.

General

Do NOT install the air conditioner in a location where it will come into contact with the following elements :

- ◆ Combustible gases
- ◆ Saline air
- ◆ Machine oil
- ◆ Sulphide gas
- ◆ Special environmental conditions

If you must install the unit in such conditions, first consult your dealer.

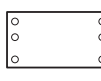
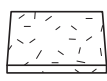
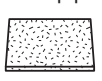
Avoid installing the air conditioner :

- ◆ In areas where it is exposed to direct sunlight. Close to heat sources.
- ◆ In damp areas or locations where it could come into contact with water. (for example rooms used for laundry)
- ◆ In areas where curtains and furniture could affect the supply and discharge of air.
- ◆ Without leaving the required minimum space around the unit. (as shown in the drawing)
- ◆ In scarcely ventilated areas.
- ◆ On surfaces that are unable to support the weight of the unit without deforming, breaking or causing vibrations during the use of the air conditioner.
- ◆ In a position that does not enable the condensate drainage pipe to be correctly installed. (at the end of the installation. It is always essential to check the efficiency of the drainage system)

Preparation for installation

Accessories

- ◆ The following accessories are supplied with the indoor unit.
The type and quantity may differ depending on the specifications.

User's manual 	Installation manual 	Pattern sheet 	Insulation drain 	Insulation cover pipe 	Insulation cover pipe 2 
Insulation pipe 	Insulation drain pipe 	Clamp hose 	Rubber 	Cable-tie 	Flexible hose 

Wired remote control accessories

Wired remote control 	Cable-tie 	Cable clamp 	M4x16 tapped screw 	
Indoor unit power drawing cable 	Communication cable of the wired remote control 	Wire joint 	User's manual 	Installation manual 

Deciding on where to install the indoor unit

Indoor unit

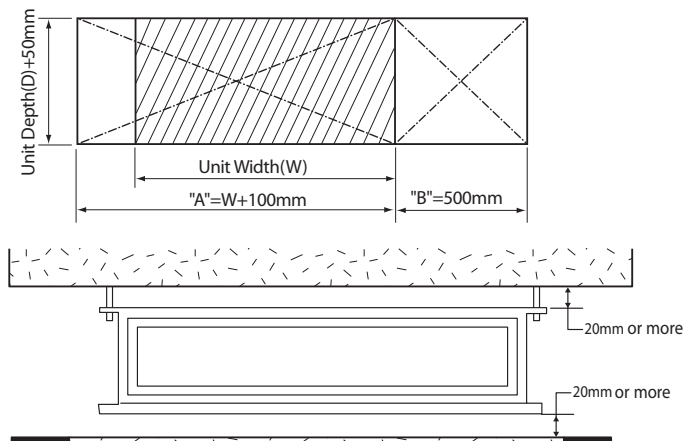
- ◆ There must be no obstacles near the air inlet and outlet.
- ◆ Install the indoor unit on a ceiling that can support its weight.
- ◆ Maintain sufficient clearance around the indoor unit.
- ◆ Make sure that the water dripping from the drain hose runs away correctly and safely.
- ◆ The indoor unit must be installed in this way, that they are out of public access. (Not touchable by the users)
- ◆ After connecting a chamber, insulate the connection part between the indoor unit and the chamber with t10 or thicker insulation. Otherwise, there can be air leak or dew from the connection part.

Space requirements for installation & service

■ Construction Standard for Inspection Hole

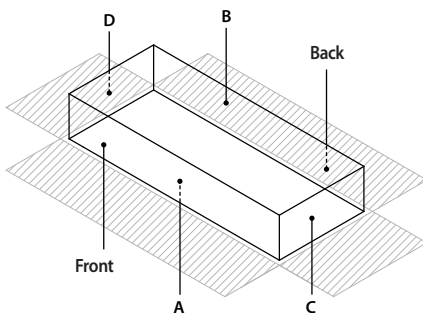
- 1) In case, the ceiling is tex tile, Inspection hole dose not need.
- 2) In case, the ceiling is plaster board, Inspection hole depends on Inside height of the ceiling.
 - a. Height is more than 3.28ft(1m) : Only "B" [Inspection for PBA] is applied.
 - b. Height is less than 3.28ft(1m) : Both "A"&"B" are applied.
 - c. "A"&"B" are inspection holes .

Deciding on where to install the indoor unit



- You must have 20mm or more space between the ceiling and the bottom of indoor unit. Otherwise, the noise from the vibration of indoor unit may bother the user. When the ceiling is under construction, the hole for check-up must be made to take service, clean and repair the unit.
- It is possible to install the unit at an height of between 2.2~2.5m from the ground, if the unit has a duct with a well defined length (300mm or more), to avoid fan motor blower contact.
- If you install the cassette or duct type indoor unit on the ceiling with humidity over 80%, you must apply extra 10mm of polyethylene foam or other insulation with similar material on the body of the indoor unit.

Insulation Guide



Thickness: more than 10mm

Indoor Unit		A	B	C	D	Front/Back
NS035LDXEA	900x600x199	900x600	900x600	600*199	600x199	Insulate the front and back side in proper size at the same time when insulating the suction duct and discharge duct.
NS052LDXEA/NS071LDXEA	1100x600x199	1100x600	1100x600	600x199	600x199	
NS052SDXEA	900x480x260	900x480	900x480	480x260	480x260	
NS071SDXEA / NS090SSXE* NS100SSXE*	1150x480x260	1150x480	1150x480	480X260	480X260	
NS090SDXEA	1150x480x320	1150x480	1150x480	480x320	480x320	
NS100/125/140SDXEA	1200x650x360	1200x650	1200x650	650x360	650x360	

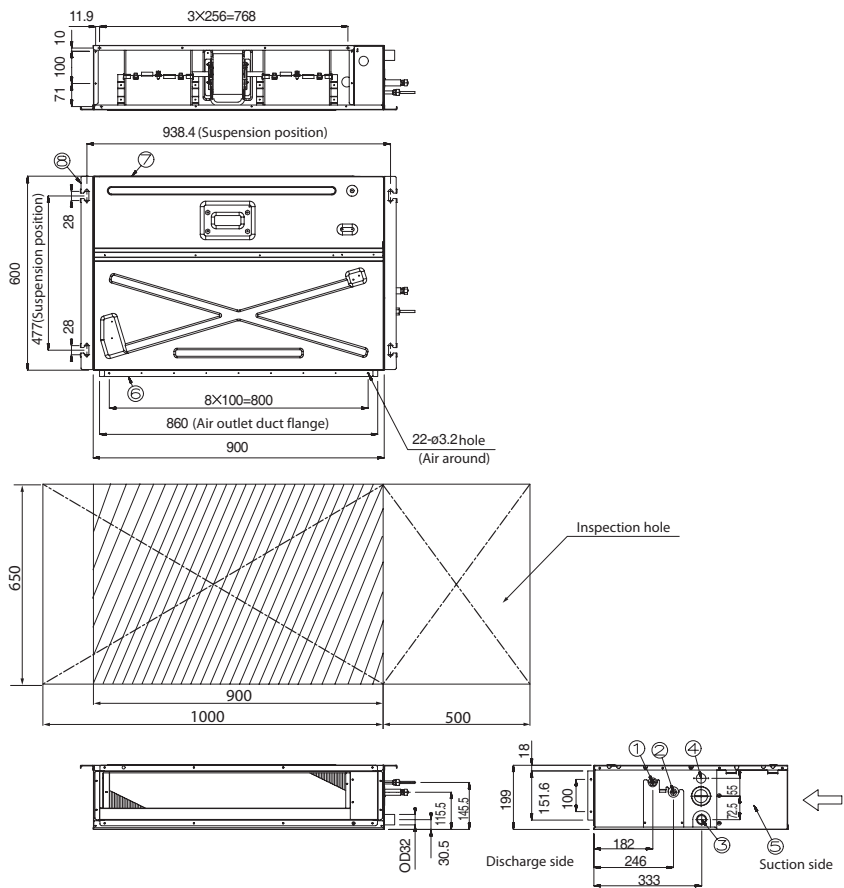
- ◆ Insulate the end of the pipe and some curved area by using separate insulator.
- ◆ Insulate the discharge and suction part at the same time when you insulate connection duct.

Deciding on where to install the indoor unit

Drawing of the indoor unit

Unit:mm

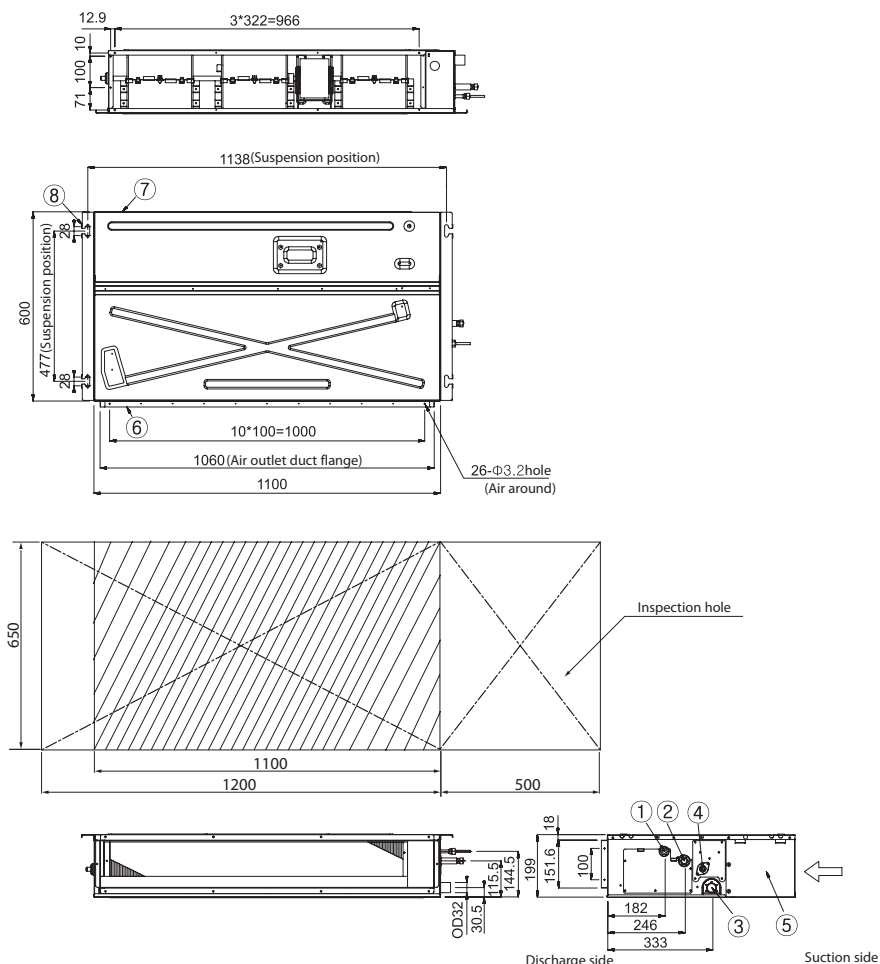
NS035LDXEA



No.	Name	Description
1	Liquid pipe connection	$\phi 6.35(1/4")$
2	Gas pipe connection	$\phi 9.52(3/8")$
3	Drain pipe connection	OD32 ID26(without drain pump)
4	Drain pipe connection	Using drain pump (Optional)
5	Power supply connection	
6	Air discharge flange	
7	Air filter	
8	Hook	M8~M10

NS052LDXEA/NS071LDXEA

Unit:mm



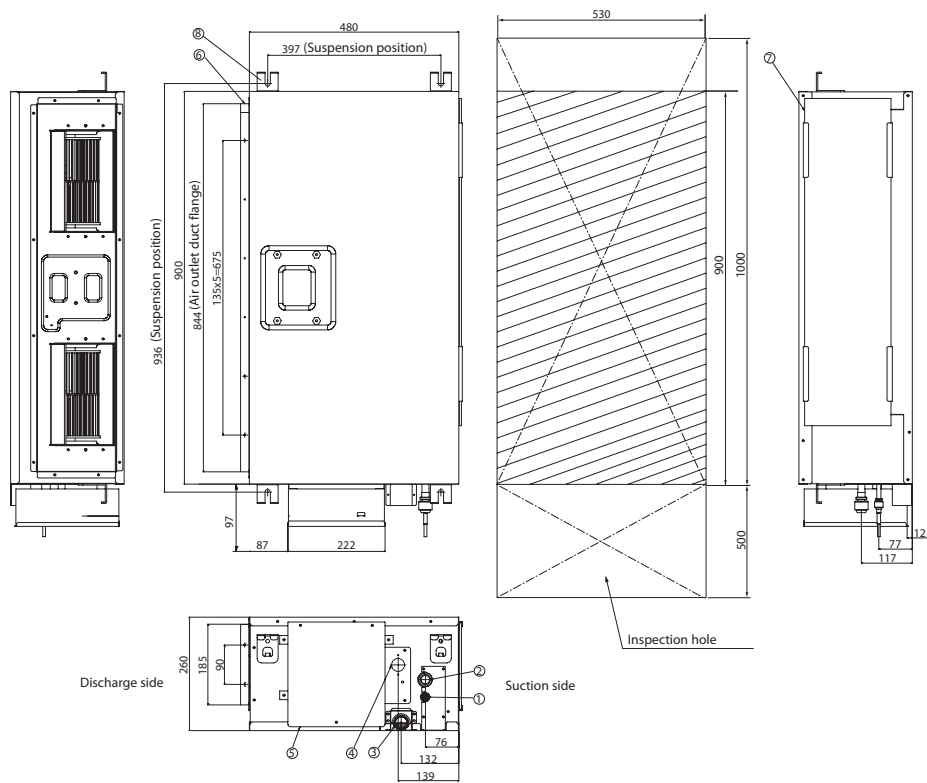
No.	Name	Description
1	Liquid pipe connection	ø6.35(1/4")
2	Gas pipe connection	*052*: ø12.70(1/2"); *071*: ø15.88(5/8")
3	Drain pipe connection	OD32 ID26(without drain pump)
4	Drain pipe connection	Using drain pump (Optional)
5	Power supply connection	
6	Air discharge flange	
7	Air filter	
8	Hook	M8~M10

Deciding on where to install the indoor unit

Drawing of the indoor unit

NS052SDXEA

Unit : mm

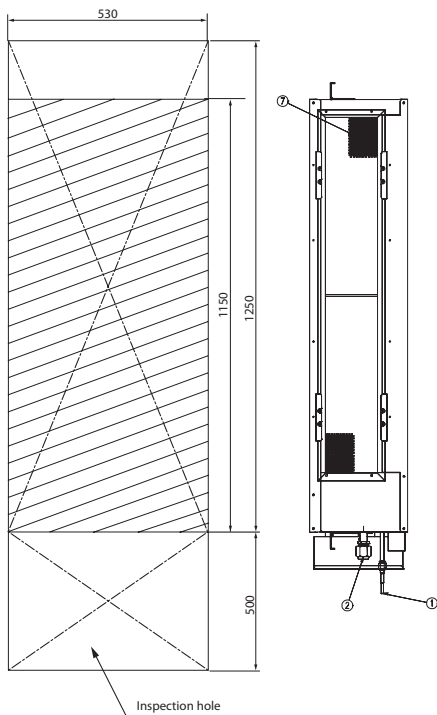
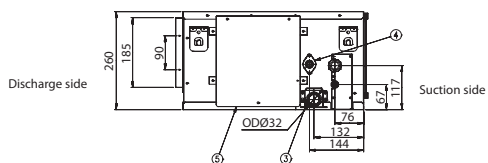


No.	Name	Description
1	Liquid pipe connection	ø6.35(1/4");
2	Gas pipe connection	ø12.70(1/2")
3	Drain pipe connection	OD32 ID26(without drain pump)
4	Drain pipe connection	Using drain pump (Optional)
5	Power supply connection	
6	Air discharge flange	
7	Air filter	
8	Hook	M8~M10

Unit : mm

Technical drawing of the front view of the unit. Dimensions and callouts include:

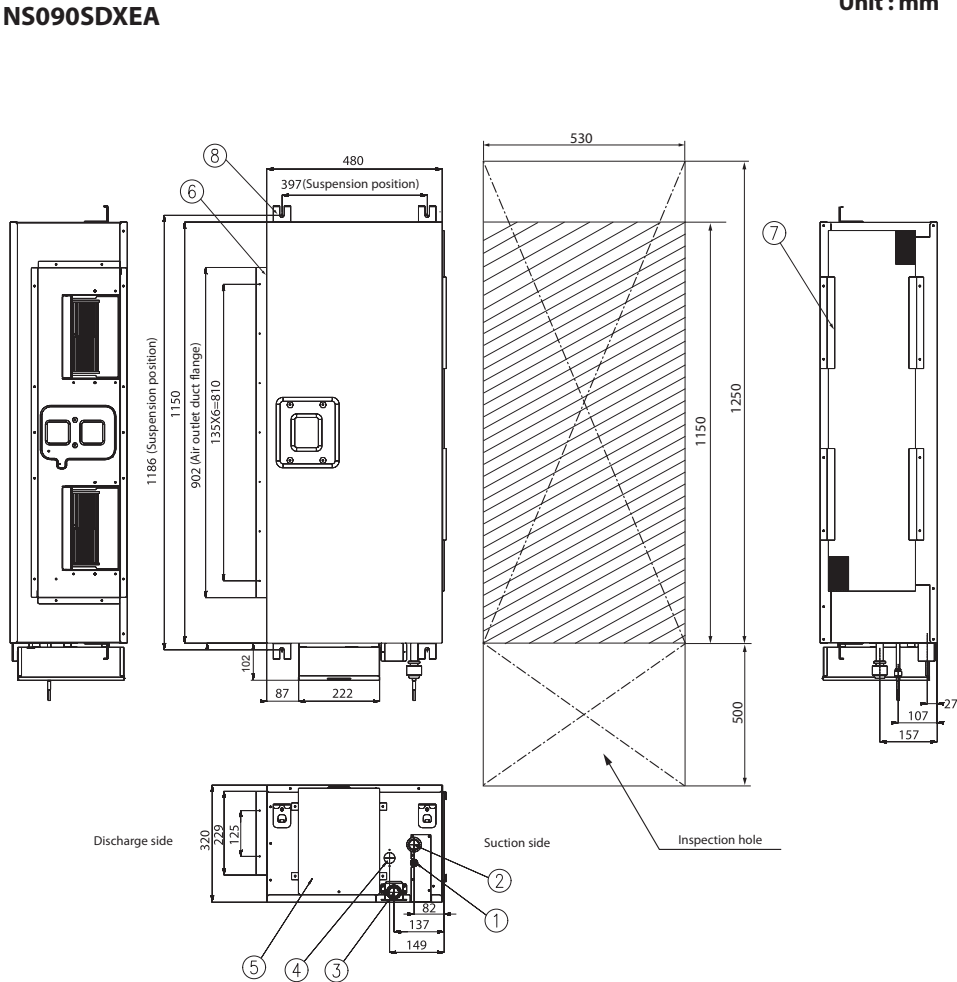
- Top width: 480
- Top right callout: 397 (Suspension position)
- Left side callout: 18-Ø3.2hole (Air around)
- Left side callout: ⑧
- Left side callout: ⑥
- Left side dimension: 1150
- Left side dimension: 1188 (Suspension position)
- Left side dimension: 964 (Air outer duct flange) ØX135=810
- Bottom left dimension: 97
- Bottom left dimension: 90
- Bottom left dimension: 220

9

Deciding on where to install the indoor unit

Drawing of the indoor unit

Unit : mm

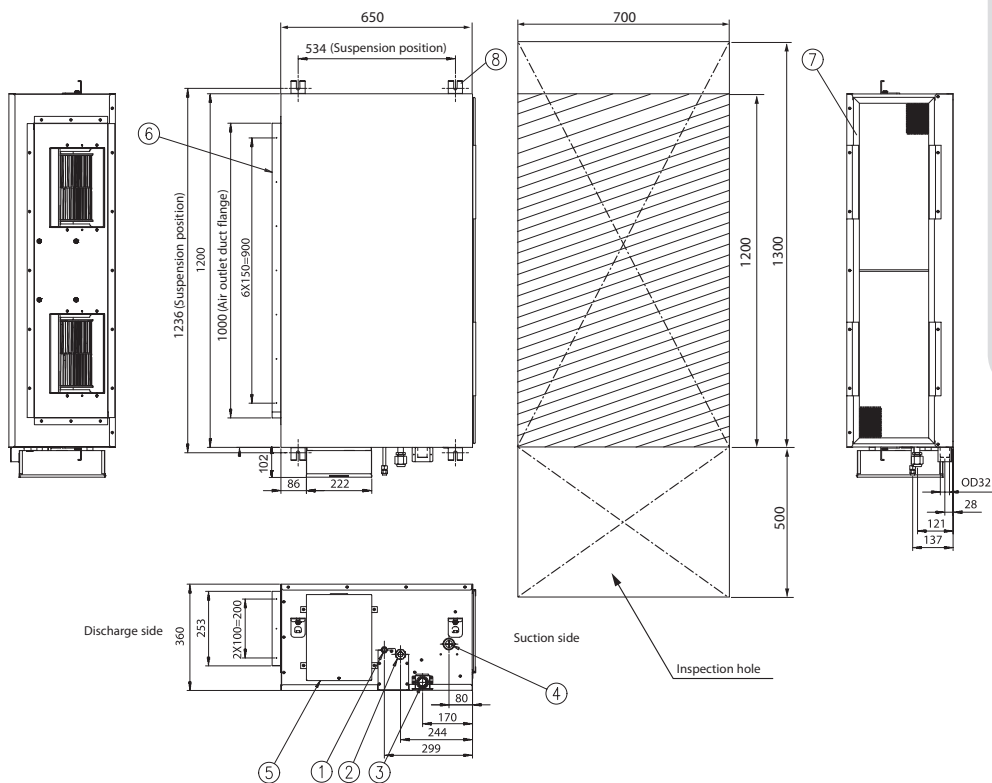


No.	Name	Description
1	Liquid pipe connection	ø9.52(3/8")
2	Gas pipe connection	ø15.88(5/8")
3	Drain pipe connection	OD32 ID26(without drain pump)
4	Drain pipe connection	Using drain pump (Optional)
5	Power supply connection	
6	Air discharge flange	
7	Air filter	
8	Hook	M8~M10

NS100SDXEA
NS125SDXEA
NS140SDXEA

Unit : mm

ENGLISH



No.	Name	Description
1	Liquid pipe connection	ø9.52(3/8")
2	Gas pipe connection	ø15.88(5/8")
3	Drain pipe connection	OD32 ID26(without drain pump)
4	Drain pipe connection	Using drain pump (Optional)
5	Power supply connection	
6	Air discharge flange	
7	Air filter	
8	Hook	M8~M10

Indoor unit installation

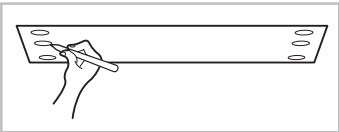
When deciding on the location of the air conditioner with the owner, the following restrictions must be taken into account.

- 1 Place the pattern sheet on the ceiling at the spot where you want to install the indoor unit.

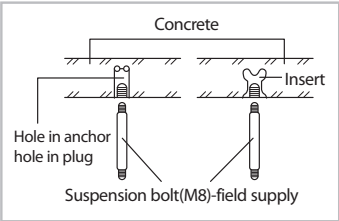


NOTE

- Since the diagram is made of paper, it may shrink or stretch slightly due to temperature or humidity. For this reason, before drilling the holes maintain the correct dimensions between the markings.



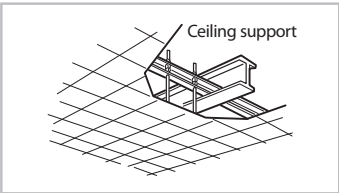
- 2 Insert bolt anchors. Use existing ceiling supports or construct a suitable support as shown in figure.
- 3 Install the suspension bolts depending on the ceiling type.





CAUTION

- Ensure that the ceiling is strong enough to support the weight of the indoor unit. Before hanging the unit, test the strength of each attached suspension bolt.
- If the length of suspension bolt is more than 1.5m, it is required to prevent vibration.
- If this is not possible, create an opening on the false ceiling in order to be able to use it to perform the required operations on the indoor unit.



- 4 Screw eight nuts to the suspension bolts making space for hanging the indoor unit.



NOTE

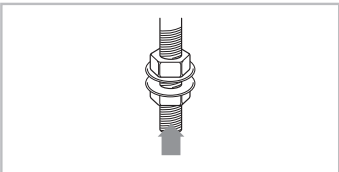
- You must install all the suspension rods.

- 5 Hang the indoor unit to the suspension bolts between two nuts.

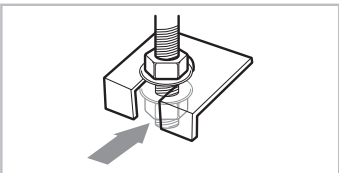


CAUTION

- Piping must be laid and connected inside the ceiling when suspending the unit. If the ceiling is already constructed, lay the piping into position for connection to the unit before placing the unit inside the ceiling.



- 6 Screw the nuts to suspend the unit.



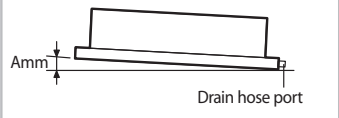
- 7 Adjust level of the unit by using measurement plate for all 4 sides.



CAUTION

- For proper drainage of condensate, give a "A"mm slant to the left or right side of the unit which will be connected with the drain hose, as shown in the figure. Make a tilt when you wish to install the drain pump, too.

When the drain hose is installed to the right.



Model	A
NS035/052/071LDXEA	10mm
NS052/071/090/100/125/140SDXEA NS090/100SSXE*	3mm

Purging the unit

From factory the unit is supplied and set with a pre-charge of nitrogen gas. (insert gas) Therefore, all insert gas must be purged before connecting the assembly piping.

Unscrew the pinch pipe at the end of each refrigerant pipe.

RESULT : All inert gas escapes from the indoor unit.



NOTE

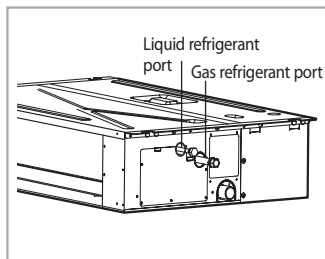
- To prevent dirt or foreign objects from getting into the pipes during installation, do NOT remove the pinch pipe completely until you are ready to connect the piping.



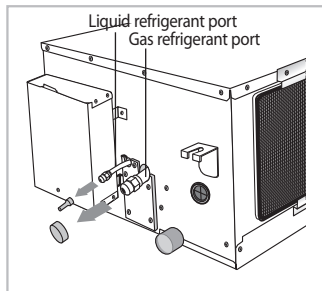
CAUTION

- Connect the indoor and outdoor units using pipes with flared connections(not supplied). For the lines, use insulated, unwelded, degreased and deoxidized copper pipe (Cu DHP type to ISO 1337 or UNI EN 12735-1), suitable for operating pressures of at least 4200kPa and for a burst pressure of at least 20700kPa. Copper pipe for hydro-sanitary applications is completely unsuitable.
- For sizing and limits (height difference, line length, max. bends, refrigerant charge, etc.) see the outdoor unit installation manual.
- All refrigerant connection must be accessible, in order to permit either unit maintenance or removing it completely.

NS035/052/071LDXEA



NS052/071/090/100/125/140SDXEA **NS090/100SSXE***

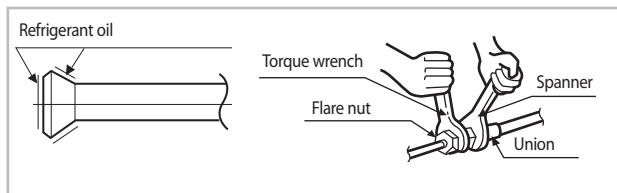


Connecting the refrigerant pipe

There are two refrigerant pipes of different diameters :

- ◆ A smaller one for the liquid refrigerant
- ◆ A larger one for the gas refrigerant
- ◆ The inside of copper pipe must be clean & has no dust

1. Remove the pinch pipe on the pipes and connect the assembly pipes to each pipe, tightening the nuts, first manually and then with a torque wrench, a spanner applying the following torque.



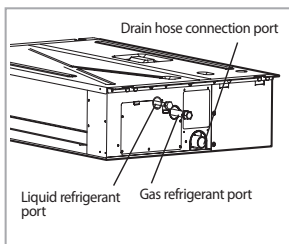
Outer Diameter (D)	Torque (N-m)
ø6.35 mm	18
ø9.52 mm	42
ø12.70 mm	55
ø15.88 mm	65
ø19.05 mm	100



- If the pipes must be shortened refer to page 15.

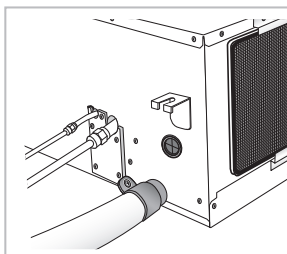
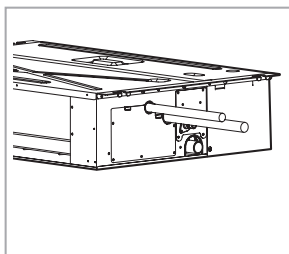
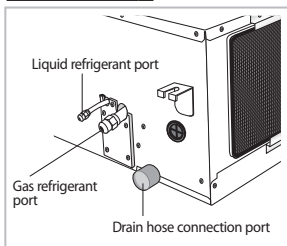
2. Must use insulator which is thick enough to cover the refrigerant tube to protect the condensate water on the outside of pipe falling onto the floor and the efficiency of the unit will be better.
3. Cut off any excess foam insulation.
4. Be sure that there must be no crack or wave on the bended area.
5. It would be necessary to double the insulation thickness(10mm or more) to prevent condensation even on the insulator when if the installed area is warm and humid.
6. Do not use joints or extensions for the pipes that connect the indoor and outdoor unit. The only permitted connections are those for which the units are designed.

NS035/052/071LDXEA



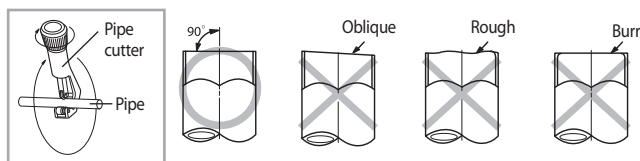
NS052/071/090/100/125/140SDXEA

NS090/100SSXE*

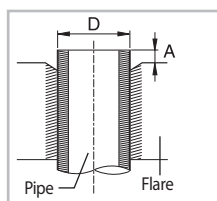


Cutting/Flaring the pipes

1. Make sure that you have the required tools available. (pipe cutter, reamer, flaring tool and pipe holder)
2. If you wish to shorten the pipes, cut it with a pipe cutter, taking care to ensure that the cut edge remains at a 90° angle with the side of the pipe. Refer to the illustrations below for examples of edges cut correctly and incorrectly.

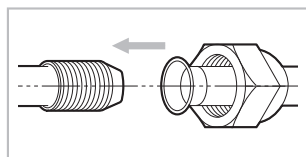


3. To prevent any gas from leaking out, remove all burrs at the cut edge of the pipe, using a reamer.
4. Slide a flare nut on to the pipe and modify the flare.



Outer Diameter (D)	Depth (A)
ø6.35 mm	1.3 mm
ø9.52 mm	1.8 mm
ø12.70 mm	2.0 mm
ø15.88 mm	2.2 mm
ø19.05 mm	2.2 mm

5. Check that the flaring is correct, referring to the illustrations below for examples of incorrect flaring.



6. Align the pipes and tighten the flare nuts first manually and then with a torque wrench, applying the following torque.

Valve	Flare nut		Valve cap		Pressure port cap		Valve needle		Pressure port	
	Wrench(mm)	N·m	Wrench(mm)	N·m	Wrench(mm)	N·m	Wrench(mm)	N·m	Wrench(mm)	N·m
1/4"	17	18	23	20	18	16~18	Allen(hex.) 5	9	-	0.34
3/8"	22	42	23	20	18	16~18	Allen(hex.) 5	9	-	0.34
1/2"	26	55	29	40	18	16~18	Allen(hex.) 5	13	-	0.34
5/8"	29	65	29	40	18	16~18	Allen(hex.) 5	13	-	0.34
3/4"	36	100	38	40	18	16~18	Allen(hex.) 5	13	-	0.34



- If the pipes require brazing ensure that OFN (Oxygen Free Nitrogen) is flowing through the system.
- Nitrogen blowing pressure range is 0.02 ~ 0.05MPa.

Performing leak test & insulation

Leak test

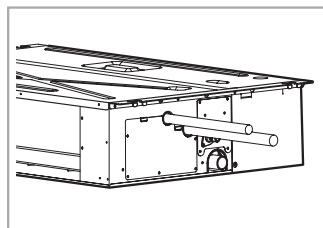
◆ LEAK TEST WITH NITROGEN (before opening valves)

In order to detect basic refrigerant leaks, before recreating the vacuum and recirculating the R-410A, it's responsible of installer to pressurize the whole system with nitrogen (using a cylinder with pressure reducer) at a pressure above 30 bar (gauge).

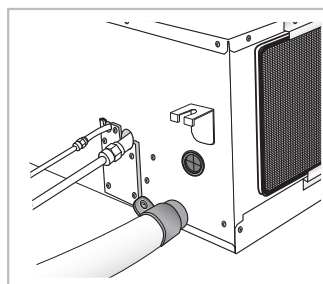
◆ LEAK TEST WITH R-410A (after opening valves)

Before opening valves, discharge all the nitrogen into the system and create vacuum. After opening valves check leaks using a leak detector for refrigerant R-410A.

NS035/052/071LDXEA



**NS052/071/090/100/125/140SDXEA
NS090/100SSXE***



- Discharge all the nitrogen to create a vacuum and charge the system.

Insulation

Once you have checked that there are no leaks in the system, you can insulate the piping and hose.

- 1 To avoid condensation problems, place T13.0 or thicker Acrylonitrile Butadien Rubber separately around each refrigerant pipe.



- Always make the seam of pipes face upwards.



- The insulation has to be produced in full compliance of European regulation reg. EEC / EU 2037/ 2000 that requires the use of sheaths insulation form without using CFC and HCFC gases for health and the environment.

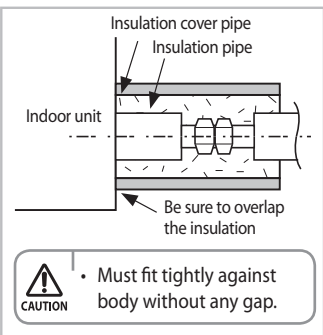
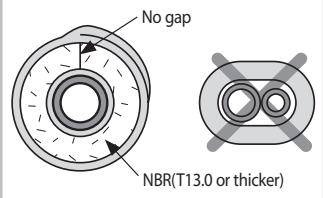
- 2 Wind insulating tape around the pipes and drain hose avoiding to compress the insulation too much.
- 3 Finish wrapping insulating tape around the rest of the pipes leading to the outdoor unit.
- 4 The pipes and electrical cables connecting the indoor unit with the outdoor unit must be fixed to the wall with suitable ducts.



- All refrigerant connection must be accessible, in order to permit either unit maintenance or removing it completely.

- 5 Select the insulation of the refrigerant pipe.

- ◆ Insulate the gas side and liquid side pipe referring to the thickness according to the pipe size.
- ◆ Indoor temperature of 30°C and humidity of 85% is the standard condition. If installing in a high humidity condition, use one grade thicker insulator by referring to the table below.
- ◆ If installing in an unfavorable conditions, use thicker one.
- ◆ Insulator's heat-resistance temperature should be more than 120°C.



- Must fit tightly against body without any gap.

Pipe	Pipe size	Insulation Type (Heating/Cooling)		Remarks
		Standard [30°C, 85%]	High humidity [30°C, over 85%]	
		EPDM, NBR		
Liquid pipe	Ø6.35 ~ Ø9.52	9t	9t	Internal temperature is higher than 120°C
	Ø12.7 ~ Ø19.05	13t	13t	
Gas pipe	Ø6.35	13t	19t	
	Ø9.52	19t	25t	
	Ø12.70			
	Ø15.88			
	Ø19.05			

◆ When installing insulation in places and conditions below, use the same insulation that is used for high humidity conditions.

<Geological condition>

- High humidity places such as shoreline, hot spring, near lake or river, and ridge (when the part of the building is covered by earth and sand.)

<Operation purpose condition>

- Restaurant ceiling, sauna, swimming pool etc.

<Building construction condition>

- The ceiling frequently exposed to moisture and cooling is not covered.

e.g. The pipe installed at a corridor of a dormitory and studio or near an exit that opens and closes frequently.

- The place where the pipe is installed is highly humid due to the lack of ventilation system.

Drainpipe and drain hose installation

Care must be taken when installing the drain hose for the indoor unit to ensure that any condensate water is correctly drained outside.

The drain hose can be installed to the right of the base pan.

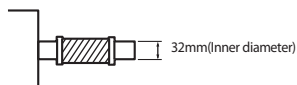
1 Insert the flexible hose to the drain hose port.



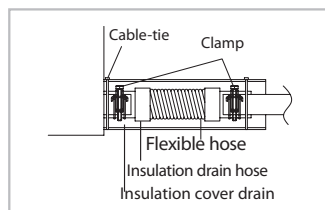
- Fix the flexible hose to the indoor unit with the supplied cable clamp securely. (Use the screwdriver to fix the flexible hose securely.)

2 Install the drain hose so that its length can be as short as possible.

Internal diameter of the drain hose should be the same or slightly bigger than the external diameter of the drain hose port.



- Inner diameter of the drain hose
- Give a slightly slant to the drain hose for proper drainage of condensate.
- Fix the flexible hose to the PVC with the supplied cable tie securely.



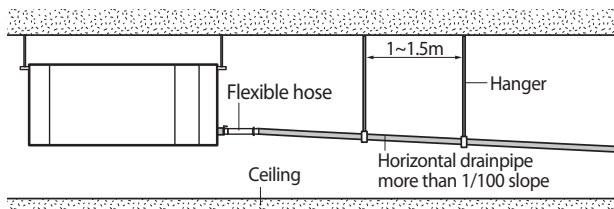
3 Wrap the drain hose with the insulation drain as shown in figure and secure it.

Drainpipe and drain hose installation

Drainpipe Connection

Without the drain pump

1. Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 1.0~1.5m.
2. Install U-trap at the end of the drainpipe to prevent a nasty smell to reach the indoor unit.
3. Do not install the drainpipe to upward position. It may cause water flow back to the unit.



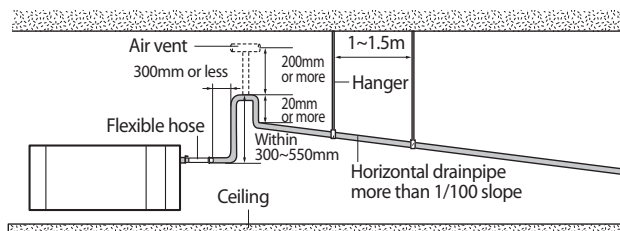
With the drain pump

1. The drain pipe should be installed within 300mm to 550mm from the flexible hose and then lift down 20mm or more.
2. Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 1.0~1.5m.
3. Install the air vent in the horizontal drainpipe to prevent water flow back to the indoor unit.

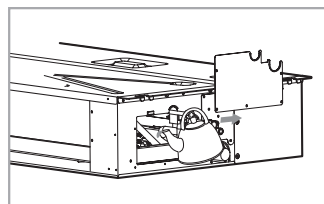


You may not need to install it if there were proper slope in the horizontal drainpipe.

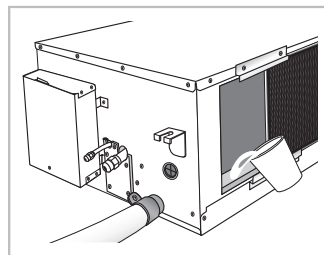
4. The flexible hose should not be installed upward position, it may cause water flow back to the indoor unit.



NS035/052/071LDXEA



NS052/071/090/100/125/140SDXEA
NS090/100SSXE*



Testing the drainage

Prepare a little water about 5 liter.

1. Pour water into the base pan in the indoor unit as shown in figure.
2. Confirm that the water flows out through the drain hose.

Connecting the connection cord



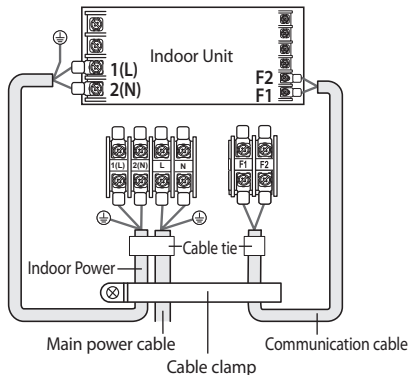
- Always remember to connect the refrigerant pipes before performing the electric connections. When disconnecting the system, always disconnect the electric cables before disconnecting the refrigerant pipes.
- Always remember to connect the air conditioner to the grounding system before performing the electric connections.

The indoor unit is powered by the outdoor unit by means of a H07 RN-F connection cable (or a more power model), with insulation in synthetic rubber and jacket in polychloroprene(neoprene), in accordance with the requirements of standard EN 60335-2-40.

1. Remove the screw on the electrical component box and remove the cover plate.
2. Route the connection cord through the side of the indoor unit and connect the cable to terminals; refer to the figure below.
3. Route the other end of the cable to the outdoor unit through the ceiling & the hole on the wall.
4. Reassemble the electrical component box cover, carefully tightening the screw.

Wiring diagram

1 phase



Between Indoor and Outdoor Connection cable Specifications(Common in use)

Indoor Power supply			Communication Cable
Power Supply	Max/Min(V)	Indoor Power cable	
220-240V~/50Hz	±10%	0.75~1.5mm ² ,3wires	

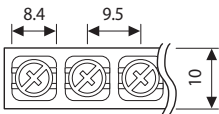
- * For connection cable, use the grade H07RN-F or H05RN-F materials.
- * Screws on terminal block must not be unscrewed with the torque less than 12 kgf·cm.
- * Since it has the external power supply, refer to the outdoor unit installation manual for MAIN POWER.



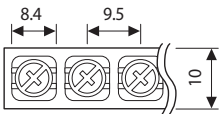
When installing the indoor unit in a computer room, use the double shielded(Tape aluminum / polyester braid + copper) cable of FROHH2R type.

Terminal Block SPEC (Indoor)

AC POWER : M4 SCREW



COMMUNICATION : M4 SCREW



Adjusting air flow

E. S. P(External Static Pressure) setting for phase control motor

With its phase control motor, you can adjust the indoor unit fan speed depending on the installation condition.

If the external static pressure is high so that the duct becomes longer or if the external static pressure is low so that the duct becomes shorter, adjust the fan speed by referring the following table.

Static Pressure (mmAq)	0	2	2.5	4	6	8	10	12	14
Model	Option code for indoor unit								
NS071LDXEA	011037 -156175 -274750 -370010	-	011037 -1563F7 -274750 -370010	011037 -1163FB -274750 -370010	-	-	-	-	-
NS071SDXEA	011017 -1163E7- 274750 -370010	011037 -11613A- 274750 -370010	-	011037 -11618C- 274750 -370010	011047 -116203 -274750 -370010	011047 -1162FF -274750 -370010	011047 -1163FD- 274750 -370010	-	-
NS090SDXEA	011044 -1560D3 -275A64 -350000	011044 -156265 -275A64 -350000	-	011044 -156299 -275A64 -350000	011044 -1562FA -275A64 -350000	011044 -1562FB -275A64 -350000	011044 -1562FB -275A64 -350000	-	-
NS100SDXEA	011044 -156083 -276470 -370000	011044 -1560A4 -276470 -370000	-	011044 -1560E8 -276470 -370000	011044 -1560F8 -276470 -370000	011044 -15621A -276470 -370000	011044 -15626C -276470 -370000	011044 -15629E -276470 -370000	011044 -1563C0 -276470 -370000
NS100SSXEA	011034 -15613B -276470 -370000	011034 -1561AF -276470 -370000	-	011044 -156293 -276470 -370000	011044 -1562F6 -276470 -370000	011044 -1562F8 -276470 -370000	-	-	-
NS125SDXEA	011044 -157083 -277D8C -370000	011044 -1570A4 -277D8C -370000	-	011044 -1570C6 -277D8C -370000	011044 -1570F8 -277D8C -370000	011044 -15721A -277D8C -370000	011044 -15726C -277D8C -370000	011044 -15729E -277D8C -370000	011044 -1573C0 -277D8C -370000
NS140SDXEA	011044 -1670A3 -278CA0 -370000	011044 -1670C4 -278CA0 -370000	-	011044 -1670E6 -278CA0 -370000	011044 -167208 -278CA0 -370000	011044 -16722A -278CA0 -370000	011044 -16728C -278CA0 -370000	011044 -1672FE -278CA0 -370000	011044 -1673F0 -278CA0 -370000
NS090SSXEA	011034 -15613B -275A64 -370000	011034 -1561AF -275A64 -370000	-	011044 -156293 -275A64 -370000	011044 -1562F6 -275A64 -370000	011044 -1562F8 -275A64 -370000	-	-	-
NS090SSXEX	011034 -15613B -275A64 -370010	011034 -1561AF -275A64 -370010	-	011044- 156293- 275A64- 370010	011044 -1562F6 -275A64 -370010	011044 -1562F8 -275A64 -370010	-	-	-
NS100SSXEX	011034 -15613B -276470 -370010	011034 -1561AF -276470 -370010	-	011044 156293- 276470- 370010	011044 -1562F6 -276470 -370010	011044 -1562F8 -276470 -370010	-	-	-

Static Pressure (mmAq)	0	2.5	4	5	8
Model	Option code for indoor unit				
NS035LDXEA	011037 -136153 -272328 -370010	011037 -1361DB -272328 -370010	011047 -136220 -272328 -370010	-	-
NS052LDXEA	011014 -156360 -27343C -370010	011014 -1563E6 -27343C -370010	011034 -15616C -27343C -370010	-	-
NS052SDXEA	011014 -19625E -27343C -370010	011014 -1963A2 -27343C -370010	-	011034 -196106 -27343C -370010	011034 -19630D -27343C -370010



NOTE

- represents E. S. P(External Static Pressure) range of factory setting.
You don't have to adjust the fan speed separately if the external static pressure of the installation place is in . When it is out of , input the appropriate option code.
- If you input the inappropriate option code, error may occur or the air conditioner is out of order. The option code must be inputted correctly by the installation specialist or service agent.

Setting the indoor unit option code

► Setting the option code with wireless remote is available if receiver kit is installed. Please use the proper wireless remote such as MR-DH00 which set 24 digit option code. Following is the instruction of setting option code with wired remote (WMR-WH02).

In order to set the indoor unit option code using the wired remote controller, hold down the  and  buttons at the same time for 5 seconds.

- 1 The menu will display .
Press the  button to enter the indoor unit option code mode.



• The first digit represents the page number and the remaining five digits are option codes.

- 2 Press the  button to change the page. You can change the page from 0 to 3.

- 3 Press the   buttons and the  button to set the option code in order.



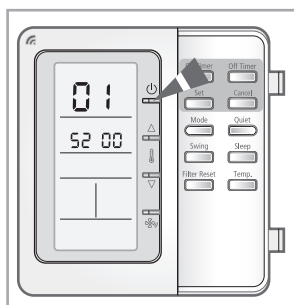
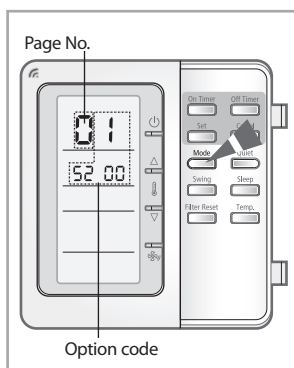
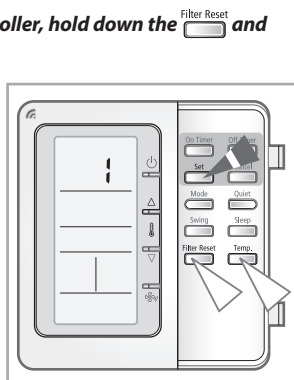
• The option code which is currently setting will flicker.

- 4 Press the  button to save the changed setting.

You will move to the menu selection display.



• Press the  button anytime during setup to exit without setting.



- Option code will not be applied if you don't press the  button.
- Setting indoor unit option code is only possible in Master wired remote controller. You can only check the indoor unit option code in Slave wired remote controller.
- Setting indoor unit option code is possible when one indoor unit is connected. If more than 2 indoor units are connected, you can only check the Master indoor unit option code.

Setting an indoor unit address and installation option

Set the indoor unit address and installation option with remote controller option. Set the each option separately since you cannot set the ADDRESS setting and indoor unit installation setting option at the same time. You need to set twice when setting indoor unit address and installation option.

Setting an indoor unit address

In order to check and set the indoor unit Main/Group Address using the wired remote controller, hold down the  and  buttons at the same time for 5 seconds.

- 1 The menu will display 1.

Press the  button and the menu will display 2.

- 2 Press the  button.

The main address (decimal notation) and group address (hexadecimal notation) of currently set indoor unit will be displayed.

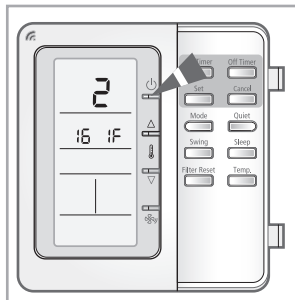
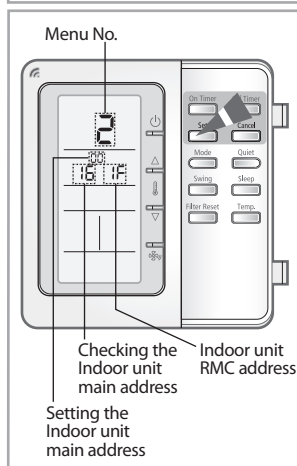
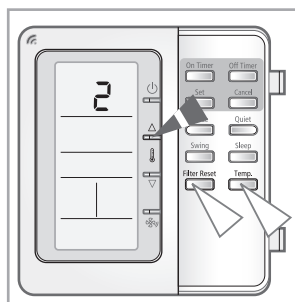
- 3 Press the   buttons and the  button to set the indoor unit Main/Group Address.

- 4 Press the  button.

Wired remote controller sends data to an indoor unit.

- 5 Press the  button to exit.

You will move to the menu selection display.



NOTE

- Press the  button anytime during setup to exit without setting.
- Setting main/group address of an indoor unit is available only with a master wired remote controller.

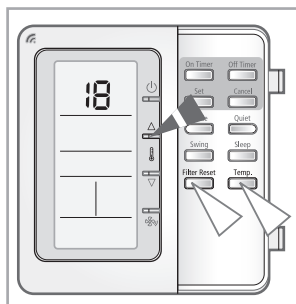
Setting an indoor unit address and installation option

Setting an indoor unit installation option

In order to check and set the indoor unit DIP option code using the wired remote controller, hold down the  and  buttons at the same time for 5 seconds.

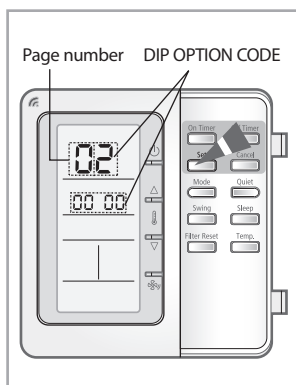
- 1 The menu will display 1.

Press the  button until 18 is displayed.



- 2 Press the  button.

The current DIP option code set in an indoor unit will be displayed.



- 3 Press  button and change the page number.

The total option codes are 24 digits. You can set six digits at a time and it is distinguished by page number (0, 1, 2, 3).

Option No. : 02XXXX-1XXXX-2XXXX-3XXXX

Option	SEG1		SEG2		SEG3		SEG4		SEG5		SEG6			
Explanation	PAGE		MODE		RESERVED		Use of external temperature sensor		Use of central control		RESERVED			
Indication and Details	Indication	Details	Indication	Details			Indication	Details	Indication	Details				
	0		2				0	Disuse	0	Disuse				
	1						1	Use	1	Use				
Option	SEG7		SEG8		SEG9		SEG10		SEG11		SEG12			
Explanation	PAGE		Use of drain pump		HOT COIL		RESERVED		RESERVED		Master / Slave			
Indication and Details	Indication	Details	Indication	Details	Indication	Details					Indication	Details		
	1		0	Disuse	0	Disuse					0	slave		
			1	Use	1	Use					1	master		
			2	Use + 3minute delay	-	-					-	-		
Option	SEG13		SEG14		SEG15		SEG16		SEG17		SEG18			
Explanation	PAGE		Use of external control		Setting the output of external control		RESERVED		Buzzer control		Number of hours using filter			
Indication and Details	Indication	Details	Indication	Details	Indication	Details			Indication	Details	Indication	Details		
	2		0	Disuse	0	Thermo on			0	Use of buzzer	2	1000 Hour		
			1	ON/OFF Control	1	Operation on			1	Non use of buzzer	6	2000 Hour		
			2	OFF Control										
Option	SEG19		SEG20		SEG21		SEG22		SEG23		SEG24			
Explanation	PAGE		Individual control of a remote controller		RESERVED		RESERVED		RESERVED		RESERVED			
Indication and Details	Indication	Details	Indication	Details										
	3		0 or 1	Indoor 1										
			2	Indoor 2										
			3	Indoor 3										
			4	Indoor 4										

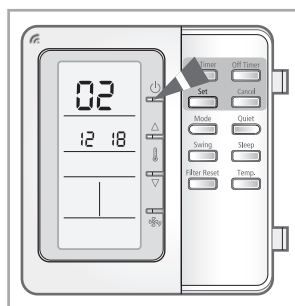
4 Press the   buttons and the  button to set the Indoor unit DIP option code.

5 Press the  button.

Wired remote controller sends data to an indoor unit.

6 Press the  button to exit.

You will move to the menu selection display.



- Press the  button anytime during setup to exit without setting.
- Setting an indoor unit DIP option code is available only with a master wired remote controller.
- Setting an indoor unit DIP option code is available when there is one on one connection between a wired remote controller and an indoor unit.
- Indoor unit DIP option code will not be applied if you don't press the  button.

Troubleshooting

- ◆ If an error occurs during the operation, one or more LED flickers and the operation is stopped except the LED.
- ◆ If you re-operate the air conditioner, it operates normally at first, then detect an error again.

LED Display on the receiver & display unit

Abnormal conditions	Indicators					Remarks
	Concealed Type					
						
	Green	Red				
	Standard Type					
						
Power reset		X	X	X	X	
Error of temperature sensor in the indoor unit (Open/Short)	X	X		X	X	
Error of heat exchanger sensor in the indoor unit		X		X	X	
Error of the outdoor temperature sensor Error of the condensor temperature sensor Error of the discharge temperature sensor		X	X		X	
1. No communication for 2 minutes between indoor units (Communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 4. When sending the communication error from the outdoor unit, the mismatching of the communication numbers and installed numbers after completion of tracking. (Communication error for more than 2 minutes)	X	X			X	1. Indoor unit error (Display is unrelated with operation) 2. Outdoor unit error (Display is unrelated with operation)

● On Flickering X Off

- ◆ If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

LED Display on the receiver & display unit

Abnormal conditions	Indicators					Remarks
	Concealed Type					
						
	Green	Red				
	Standard Type					
						
Communication error between indoor units		X	X	X		
1. Error of electronic expansion valve close 2. Error of electronic expansion valve open 3. 2'nd detection of high temperature cond 4. 2'nd detection of high temperature discharge 5. Error of reverse phase 6. Compressor down due to 6th detection of freezing	X	X				
Detection of the float switch	X	X	X			
Error of setting option switches for optional accessories	X	X		X		
EEPROM error		X			X	
EEPROM option error						

● On  Flickering X Off

◆ If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

Troubleshooting

Wired remote control

- ◆ If an error occurs,  is displayed on the wired remote control.
If you would like to see an error code, press the Test button.

Display	Explanation	Remark
101	Indoor unit Communication Error	Communication Error
102	Indoor/Outdoor unit Communication Time Out Error 60 Packet Over data	
201	Indoor unit is not connected	
203	Communication Error between Outdoor Main and Inverter Micom (Occurred after 1 minute detection in Main and Inverter)	
121	Indoor Temp. Sensor (Open/Short Error)	Indoor Sensor Error
122	Indoor Unit Eva in Sensor (Open/Short Error)	
128	Indoor Unit Eva in Sensor Separation	
221	Outdoor Temp. Sensor Error (Open/Short Error)	Outdoor Sensor Error
237	COND Temp. Sensor Error (Open/Short Error)	
251	Inverter Compressor Discharge Temp. sensor Error (Open/Short Error)	
425	Power cable miss connection error	
153	Indoor Float S/W 2 nd Detection	Self Diagnosys Error
460	Outdoor unit - indoor unit communication wire miss connection (Connected to Power terminal)	
554	Outdoor unit refrigerant Full leakage (Gas leak)	
458	Outdoor Fan 1 Error	
475	Outdoor Fan 2 Error	
416	Discharge over temperature	Outdoor Unit Protection Control Error
461	[Inverter] Compressor starting error	
462	Primary Current Over Trip error	
464	[Inverter] DC PEAK error(O.C)	
467	[Inverter] Compressor Rotation error	
468	[Inverter] Current Sensor error	
469	[Inverter] DC LINK Sensor error	
471	[Inverter] EEPROM Read/Write Error	
474	[Inverter] Heatsink temperature over Error	
556	Outdoor unit Capacity Setup option error	Wired Remote Control Error
601	Communication error between Indoor unit and wired remote control	
602	Communication error between Master and Slave wired remote control	
606	COM1/COM2 Cross-installed error	
EA	Error of setting option for wired remote control COM2	



"EEE Yönetmeliğine Uygundur"
"This EEE is compliant with RoHS"

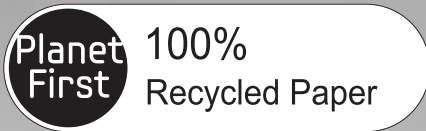
Duct Type Series

NS***LDXEA

NS***SDXE*

NS***SSXE*

Air Conditioner installation manual



This manual is made with 100% recycled paper.



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